

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Muraleedhara Herur Navada et al.	Art Unit:	2616
Serial No.:	10/749,792	Examiner:	Nguyen Hoang Ngo
Filed:	December 31, 2003	Conf. No.:	5367
Title:	PACKET FORWARDING		

Mail Stop Appeal Brief - Patents

Commissioner for Patents
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REPLY BRIEF

Pursuant to 37 C.F.R. § 41.41, Applicant responds to the Examiner's Answer as follows:

Rejections under 35 U.S.C. § 103(a)

The Office maintains the rejections of claims 1-14, 21-23 and 27-31 based on the proposed combination of Weyman and Abali.¹ However, the Office has yet to show that the proposed combination of Weyman and Abali teach or suggest each and every feature of the pending claims.

Claim 1 and its dependent claims

Among other things, claim 1 recites “when detecting that the at least one other packet forwarding device in the stack is to receive the packet before reaching the identified destination device, inserting a vector in the received packet, wherein the vector includes data that identifies the identified destination device and the at least one other packet forwarding device in the stack of packet forwarding devices to receive the packet.” Thus, the **packet forwarding device that received the packet** inserts the vector **after** the packet forwarding device that received the packet processes the received packet. Because the vector is inserted at the packet forwarding device after receiving the packet, the received packet **does not** include the claimed vector.

In contrast to claim 1, Abali teaches that a source processor passes a route word in a packet to a switch, and the switch examines the received route word to determine the destination for the packet.² Thus, the route word in Abali is already present when the switch receives the packet.

¹ See Examiner's Answer at pages 3-6.

In fact, the Office concedes that the route word in Abali is inserted by the source processor before passing the packet to the switch.³

Examiner simply uses the teachings of Abali to illustrate the well known concept of a source routing protocol in which packet route information (correlating to a vector) is inserted by a source node, as agreed upon by Applicant (see Appeal Brief page 8). Examiner agrees that the route words are inserted by the source processor and not the switch that received the packet, as stated in the Appeal Brief. Examiner however simply relies on Abali to illustrate the concept of inserting a vector into a packet so that the packet can reach the proper destination.⁴

However, as described above, claim 1 recites that the vector is inserted **at the packet forwarding device** that received the packet **after** the packet is received and processed at the packet forwarding device. Therefore, the source processor that inserts the route word before sending the packet to the switch in Abali is irrelevant to the claimed features and improperly cited against claim 1.

The addition of Weyman fails to alleviate the deficiencies of Abali.⁵ The Office concedes that Weyman is silent as to the claimed features.⁶

Weyman is however silent in specifically stating how this is accomplished, but states that only the lead router need run a full routing protocol, which may be any appropriate routing protocol (page 3 [0040]). It would have thus been obvious to a person skilled in the art at the time the invention was made to take the concept of inserting route words as taught by Abali into the lead router (forwarding device) of Weyman, in order for the lead router to correctly and efficiently forward the packet to the correct destination.⁷

² See Appeal Brief at page 7, line 9 – page 8, line 9 (Citing to Abali at column 3, lines 17-20: “The source processor places the route words in the packet. A switch receiving the packet examines the first route word to determine which output port the packet is to be routed to.”)

³ See Examiner's Answer at page 7, 2nd paragraph.

⁴ Id.

⁵ See Appeal Brief at page 7, lines 3-8; Examiner's Answer at pages 3-4; page 7, line 21 - page 8, line 9.

⁶ See Examiner's Answer at page 7, line 21 - page 8, line 9.

⁷ Id.

Thus, based on the teachings of Abali and Weyman and by Office's own admission, the proposed combination of Abali and Weyman fails to teach or suggest at least the claimed "when detecting that the at least one other packet forwarding device in the stack is to receive the packet before reaching the identified destination device, inserting a vector in the received packet, wherein the vector includes data that identifies the identified destination device and the at least one other packet forwarding device in the stack of packet forwarding devices to receive the packet."

Having conceded that the proposed combination fails to teach or suggest the above described features of claim 1, the Office contends that "[i]t would have thus been obvious to a person skilled in the art at the time of the invention, to incorporate the concept of source based routing in which [the] routing information (vector) [is inserted] into a packet as disclosed by Abali into the method of routing data through stacked network routers as disclosed by Weyman in order to correctly and efficiently communicate data through a stacked routers."⁸ However, the issue is not the obviousness of inserting a vector in an environment of stacked network routers. Claim 1 requires "inserting a vector in the received packet," which means the claimed vector is inserted by the packet forwarding device after the packet forwarding device receives the packet. Thus, the Office must show that the proposed combination teaches a packet forwarding device inserting the vector into a packet after receiving the packet. For reasons describe herein, the Office has failed to do so.

Further, assuming *arguendo*, the Office is contending that based on the teachings of Abali and Weyman, it is obvious to insert the vector into a packet at the packet forwarding device, such contention defies common sense reasoning. The Office's contention requires an assumption that merely because (1) Abali teaches a source processor to insert a route word into the processed packet and (2) Weyman teaches stacked routers, common sense reasoning would lead one of ordinary skill in the art to combine (1) and (2) to use the staked routers in Weyman to insert the route word into the

⁸ Id. at 4-5.

packet. However, such contention ignores the fact that in Abali, the source processor must process the packet and have knowledge of the stacks of routers in order to insert the route word. In contrast, claim 1 requires the packet forwarding device that received the packet to insert a vector into the received packet. Thus, claim 1 requires the packet forwarding device to process the received packet. To follow the reasoning of the Office, this technical difference must be ignored.

In fact, the rejection based on the proposed combination amounts to nothing more than an attempt to show that each individual claimed feature was independently known in the prior art. Such lack of common sense reasoning was clearly deemed improper by the Supreme Court in *KSR Int'l Co. v. Teleflex Inc.* (See *KSR Int'l Co. v. Teleflex Inc.*, slip op. at 14-15. Emphasis added.)

[A] patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. Although common sense directs one to look with care at a patent application that claims as innovation the combination of two known devices according to their established functions, it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.

See, *Id.* at 14-15 (emphasis added).

Further, the proposed combination of Abali and Weyman does not logically come together because the Office attempts to piece together the claimed features based only on the knowledge gleaned from Applicants' disclosure. Although, "[a]ny judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account *only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a*

reconstruction is proper." *In re McLaughlin* 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971); MPEP §2145 (X)(A). (Emphasis Added.) The Supreme Court warned against improper hindsight in *KSR*. (See *KSR Int'l Co. v. Teleflex Inc.*, slip op. at 18. Emphasis added.)

A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning. See *Graham*, 383 U.S., at 36 (warning against a "temptation to read into the prior art the teachings of the invention in issue" and instructing courts to "guard against slipping into the use of hindsight'" (quoting *Monroe Auto Equipment Co. v. Heckethorn Mfg. & Supply Co.*, 332 F. 2d 406, 412 (CA6 1964))). Rigid preventative rules that deny factfinders recourse to common sense, however, are neither necessary under our case law nor consistent with it.

See, id.

In the present situation, the knowledge within the level of ordinary skill in the art would not have led to the proposed combination, and thus the knowledge was gleaned only from Applicants' disclosure. Further, the reasoning proffered by the Office defies common sense because too many assumptions are required to equate the combination and the claimed features. For at least these reasons, claim 1 is patentable over the proposed combination of Abali and Weyman.

Claims 2-7 depend from claim 1 and are allowable for at least the same reasons.

Claim 8 and its dependent claims

Claim 8 is allowable for at least reasons similar to claim 1. Claims 9-14 depend from claim 8 and are allowable for at least the same reasons.

Claim 21 and its dependent claims

Claim 21 is allowable for at least reasons similar to claim 1. Claims 22-23 and 27-31 depend from claim 21 and are allowable for at least the same reasons.

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For these reasons, and the reasons stated in the Appeal Brief, Applicant submits that the final rejection should be reversed.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

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